**Mary Smith**

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**EDUCATION**

**Bachelor of Science in Computer Engineering**  Expected May 2025

State University of New York at New Paltz – New Paltz, NY

GPA: 3.51/4.0

**Relevant Coursework:** Microprocessor System Design, Computer Architecture, Data Communication, Embedded Systems, Circuits Analysis, Software Engineering, VLSI Design, Functional Verification, Embedded Lux, Digital System Design, Real Time Operating System

**TECHNICAL SKILLS**

Java, Python, C++, C, R, CS50 edx, Deep Learning for Coders, SQL, XML, Perl, AWS, REST API Web Services

**PROJECTS**

**Passage Retrieval Using Knowledge Graphs & Clustering Methods**  Spring 2024

* Developed an advanced method to pre-process and cluster similar paragraphs using supervised hierarchical agglomerative clustering, aligning them with relevant section headings to create structured content (e.g., Wikipedia). This approach extracts topics from anchor text by integrating cutting-edge techniques from Information Retrieval, Data Science, and Machine Learning. The implementation leverages the TREC CAR’18 dataset and the Lucene 7.2.0 API for robust evaluation. This innovative work has been submitted for publication at ACM SIGIR 2024.

**Predicting Time Interval to Replace SITL for NASA Magnetospheric Multiscale Mission** March – May 2023

* Applied Machine Learning techniques, including Logistic Regression, Support Vector Machines (SVM), LDA, and Random Forest, to train a classifier that identifies the most critical time durations for downloading detailed MMS data. This approach optimizes data retrieval by prioritizing high-value time periods for in-depth analysis.

**Insulin Regularization Using Reinforcement Learning** October – December 2022

* Developed a reinforcement learning approach to effectively regulate glucose levels, maintaining them within a safe range while preventing dangerous episodes of hypoglycemia and hyperglycemia. The implementation combines SARSA with Proportional Integral Derivative (PID) control methods, offering a dynamic solution for real-time glucose management.

**RELATED EXPERIENCE**

**Lab Proctor, Academic Computing** January 2023 – Present

**SUNY New Paltz** – New Paltz, NY

* Provide expert assistance to students with computer-related challenges, ensuring smooth and efficient resolution of technical issues.
* Ensure printer functionality by handling tasks like loading paper, replacing toner, and troubleshooting paper jams for uninterrupted performance.
* Foster a focused and productive atmosphere in the computer labs by maintaining a quiet and orderly environment.

**Engineering Intern, Field Engineering Department** June 2024 – August 2024

**Otis Elevator Company** – Bloomfield, CT

* Utilized Pulse Width Modulation (PWM) on the Arduino Uno microcontroller to precisely control sensors within an escalator simulator, enhancing the system's responsiveness and accuracy.
* Conducted rigorous testing and troubleshooting of the Compass System to ensure accurate performance and reliability.
* Developed macros to efficiently extract data from Excel worksheets and seamlessly import it into Access tables, streamlining data management and analysis processes.